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ACIS Ref. ID: 10465

IMPLEMENTING ARRANGEMENT

BETWEEN THE

**UNITED STATES GEOLOGICAL SURVEY
OF THE DEPARTMENT OF THE INTERIOR**

AND THE

**NATIONAL INSTITUTE OF AERONAUTICS AND SPACE (LAPAN)
OF THE REPUBLIC OF INDONESIA**

**FOR COOPERATION IN THE USE OF
U.S. LAND REMOTE SENSING SATELLITE DATA**

PREAMBLE

The United States Geological Survey of the United States Department of the Interior and the National Institute of Aeronautics and Space (LAPAN) of the Republic of Indonesia, (hereinafter referred to as "the Parties"),

RECOGNIZING their mutual interest in the use of space technology for peaceful purposes;

NOTING the value of the United States Landsat satellite missions to cooperation among governments in space-based remote sensing of the Earth's surface;

REFERRING to the Agreement between the Government of the Republic Indonesia and the Government of the United States of America on Scientific and Technological Cooperation, signed in Jakarta on March 29th, 2010.

DESIRING to establish an overall legal framework for cooperation in future land remote sensing satellite missions;

HAVE AGREED as follows:

ARTICLE 1 – PURPOSE AND SCOPE OF COOPERATION

This Implementing Arrangement (IA) establishes the terms and conditions under which the United States Geological Survey (USGS) will provide United States-owned land remote sensing satellite data and LAPAN will receive, process, archive, distribute, and exchange such data in cooperation with the USGS. This IA consists of a main text, a definition of terms annex, and mission-specific annexes. The annexes are an integral part of this IA.

ARTICLE 2 – RESPONSIBILITIES OF THE PARTIES

A. The USGS shall endeavor to provide operational land remote sensing satellite service under the terms of this IA and shall:

1. Program land remote sensing satellites to collect and provide remote sensing data of areas within the acquisition radius of LAPAN's ground station(s) to the extent that such requests can be accommodated by the spacecraft. The USGS will endeavor to schedule satellite downlink resources to meet requests from all participating ICs in an equitable and balanced manner, subject to conflict-resolution guidelines to be provided to all stations. Programming details to meet such requests will be arranged by mutual decision of the Parties' technical representatives.

2. Provide LAPAN with orbital elements for calculating the antenna pointing

angles necessary to acquire the satellite-transmitted signals and with the necessary ancillary and calibration information for processing the data acquired.

3. Reserve the right to curtail or terminate transmission of satellite data to LAPAN for reasons of (1) spacecraft or USGS ground equipment limitations, or (2) non-payment of annual access fee as agreed in any mission-specific Annex to this IA. In these cases, the USGS will notify LAPAN and discuss the planned action in the most expeditious manner possible.

4. Provide to LAPAN, upon request by LAPAN, reasonable quantities of raw USGS land remote sensing satellite data extracted from the USGS archive in an agreed-upon format and delivered electronically or on media at a price to be negotiated.

5. Provide support for anomaly resolution for USGS land remote sensing satellite missions.

6. Endeavour to ensure that any radio frequency problem occurring in relation to data reception by LAPAN's ground station(s) is resolved to the satisfaction of the Parties.

B. LAPAN shall:

1. Operate (a) ground station(s) for the reception, processing, archiving, distribution, and exchange of USGS land remote sensing satellite data at its own expense, including the cost of establishing and operating the necessary communication links with the USGS's Mission Operations Center (MOC) and the USGS's data center located at the Earth Resources Observation and Science (EROS) Center.

2. Produce land remote sensing satellite data products in accordance with agreed-upon USGS-sponsored distribution formats.

3. Ensure that all USGS land remote sensing satellite data acquired by LAPAN are available for sale or distribution on a public, nondiscriminatory basis. This applies to all USGS land remote sensing satellite data acquired under this and previous Landsat IAs signed with U.S. Government agencies.

4. Make available to the USGS, upon request, English-language copies of any arrangements signed by LAPAN concerning the distribution of USGS land remote sensing satellite data from LAPAN. Such arrangements shall be consistent with this IA.

5. Maintain a current inventory of its USGS land remote sensing satellite data holdings and provide at least monthly updates of its metadata to the

USGS in an agreed-upon format, electronically or on agreed-upon media, once the ground station(s) is (are) operational. These metadata may be made available publicly through USGS data facilities.

6. Establish and maintain a computer-accessible electronic system, with external public access, of browse imagery for its USGS land remote sensing satellite data holdings, or provide browse data at least monthly to the USGS in an agreed-upon format and on agreed-upon media, once the ground station(s) is (are) operational. LAPAN browse imagery may be made available publicly through USGS data facilities.

7. Maintain USGS land remote sensing satellite data that have met LAPAN quality standards in LAPAN's archive for at least 10 years following data acquisition, using accepted archive management practices. If LAPAN plans to discard data, it will issue a purge alert to the USGS, which will be given first right of refusal to acquire the data at a price to be negotiated.

8. Endeavor to ensure that any radio frequency problem occurring in relation to data reception by LAPAN's ground station(s) is resolved to the satisfaction of the Parties. Questions concerning radio frequency interference by the USGS land remote sensing spacecraft raised by entities in third countries will be referred to the USGS.

9. When requested by the USGS in support of key U. S. Government programs, provide reasonable quantities of LAPAN-held USGS land remote sensing satellite data, in an agreed-upon format, electronically or on media, and at a price to be negotiated.

10. Repatriate to the USGS, within 30 days of downlink, any USGS land remote sensing satellite data received which is unique to LAPAN's archive.

11. For purposes of validating data quality, exchange limited amounts of LAPAN-held USGS land remote sensing satellite data, in an agreed-upon format, electronically or on media, when requested by the USGS. Data for this purpose shall be exchanged annually, at no cost to the USGS.

12. When requested by the USGS in response to a significant loss of spacecraft capability to record data for the USGS archive, routinely provide sufficient quantities of newly acquired USGS land remote sensing satellite data to meet U.S. Government mission requirements, in an agreed-upon format, electronically or on media, at a cost to be negotiated. For any support necessary to LAPAN beyond providing USGS land remote sensing satellite data to the USGS as described above, the Parties will negotiate specific financial terms.

13. Communicate with the MOC on spacecraft information, in order to maximize data collection and efficiency of spacecraft operations.

14. Provide support for anomaly resolution of USGS land remote sensing satellite missions.

ARTICLE 3 – INTERNATIONAL MISSION COORDINATION

A. Each Party shall designate program representatives to be responsible for the implementation of this IA. Supplemental meetings between the Parties will be held by mutual agreement.

B. Program management representatives from the Parties will participate in annual meetings of the Landsat Ground Station Operations Working Group (LGSOWG). This group, chaired by the USGS, will serve as a forum for the exchange of policy, programmatic and management information among station operators and the USGS.

C. Technical representatives from the Parties will participate in annual meetings of the Landsat Technical Working Group (LTWG). This group, also chaired by the USGS, will review and coordinate technical and operational aspects of USGS international mission support.

ARTICLE 4 – SCIENCE AND APPLICATIONS DEVELOPMENT

1. The Parties will seek to identify opportunities for cooperation in improved land remote sensing satellite data collection, user accessibility, and data distribution.

2. The Parties will seek to identify opportunities to support new research in the use of land remote sensing satellite data, and the development of related applications to enhance land use practices, ecosystems management, climate change research, and other areas of Earth systems science.

3. The Parties will seek to cooperate in the support of global observation and science programs involving the use of land remote sensing satellite data.

4. The Parties will consult with one another on best practices and improved means of cooperation in the long-term archiving and preservation of land remote sensing satellite data.

5. The Parties will share information and consider opportunities for training and capacity building in the use of land remote sensing satellite data.

6. Subject to the provisions of Article 10, the Parties will share information on their respective development and potential for cooperation in their respective land remote sensing satellite missions.

ARTICLE 5 – USER SERVICE ARRANGEMENTS

The USGS reserves the right to service the land remote sensing satellite data requests of all users affiliated with U.S. Government programs.

ARTICLE 6 – FINANCIAL ARRANGEMENTS AND LEGAL AUTHORIZATION

1. The Parties shall be responsible for funding their respective activities under this IA. Additionally, LAPAN, or its designated agent, shall pay to the USGS, or ensure the appropriate authorities of LAPAN's government pay to the USGS, in a timely manner, any access fees described in any mission-specific Annex(es). These fees are required to enable the USGS to administer all operations in support of a global network of cooperating ground receiving stations.

2. Obligations under this Agreement and any Implementing Annexes shall be subject to the availability of funding obtained through each Party's funding procedures.

3. Should either Party encounter budgetary problems that may affect the activities carried out under this IA that Party shall notify and consult with the other Party in a timely manner in order to minimize the negative impact of such problems on the cooperation.

ARTICLE 7 – DUTIES, FEES, AND TAXES

In accordance with its national laws and regulations, each Party shall seek to ensure free customs clearance and waiver of all applicable duties, fees, and taxes for the import or export of goods necessary for the implementation of this IA. In the event that any duties, fees, or taxes of any kind are nonetheless levied on such goods, such duties, fees, or taxes shall be borne by the Party of the country levying them.

ARTICLE 8 – ENTRY AND EXIT OF PERSONNEL

On a reciprocal basis, each Party shall use reasonable efforts to facilitate, in accordance with its laws and regulations, the entry to and exit from its territory of personnel engaged in joint activities pursuant to this IA.

ARTICLE 9 – LAWS, WARRANTIES, RIGHTS, AND LIABILITY

1. The activities under this IA will be conducted in accordance with the applicable laws and regulations of the Parties' countries, respectively, and shall be subject to the availability of appropriate funds.

2. The USGS does not warrant the suitability of its land remote sensing data for any purpose and shall not be liable for any damage or injury brought about by use of USGS land remote sensing satellite systems and their data.

3. The USGS retains the ownership right to all raw land remote sensing data acquired by its satellites. Beyond the provisions of Article 3.B.3, the USGS places no restrictions on LAPAN to disclose, use, manipulate, generate products from, distribute, or sell USGS land remote sensing satellite data.

ARTICLE 10 – EXCHANGE OF TECHNICAL INFORMATION

1. Technical information exchanged between the Parties will be subject to the applicable laws, regulations, and policies of the Parties' countries, respectively. In the event it is necessary to exchange technical information and the furnishing Party considers that such technical information is to be protected for proprietary or export control purposes, such information must be clearly marked with a legend indicating the country of origin, the conditions of release, that the information relates to this IA, and that it is furnished in confidence.

2. The Parties USGS and LAPAN will take all lawful steps available to prevent disclosure of such protected or proprietary technical information without the consent of the other Party and to ensure that it is used only for the purposes of this IA.

3. The USGS and LAPAN may release to the public other general, non-technical information regarding each other's programs or operations after ensuring, through consultation with each other when necessary, that this information is fairly and accurately represented.

4. The USGS and LAPAN may exchange appropriate technical information and documentation for the purposes of downlinking, processing, and archiving USGS land remote sensing satellite data as well as for generating and distributing products from that data.

ARTICLE 11 – CONSULTATIONS AND SETTLEMENT OF DISPUTES

1. The Parties shall consult, as appropriate, to review the implementation of activities undertaken pursuant to this IA, and to exchange views on potential areas of future cooperation.

2. In the event questions arise regarding the interpretation, application, or implementation of activities under this IA, the Program Managers of the Parties shall endeavor to resolve the questions. If the Program Managers are unable to reach an agreement, then the matter will be referred to a more senior level of the Parties for joint resolution.

ARTICLE 12 – ENTRY INTO FORCE, DURATION, AND TERMINATION

1. This IA shall enter into force upon signature by both Parties and remain in force through the operational lifetime of the USGS land remote sensing spacecraft(s) from which LAPAN receives USGS land remote sensing data. This IA may be amended by mutual agreement of the Parties.

2. In the event that either of the Parties is unable to comply with any provision of this IA, either Party, after consultation with the other, shall have the option of terminating this IA, providing at least 30 days' notice of such action, forwarded in writing by one Party to the other.

3. Notwithstanding termination or expiration of this IA, the obligations of the Parties set forth in Article 2.B.3, Article 2.B.7, Article 9.2, Article 9.3, and Article 10 of this IA shall continue to apply.

ARTICLE 13 – SIGNATURE

IN WITNESS THEREOF, respective representatives of the Parties have signed this Implementing Agreement.

For the United States Geological Survey of the Department of the Interior:

Marcia McNutt
Director
U.S. Geological Survey
Reston, Virginia

OCT 1 0 2012
Date

Place

For LAPAN:

Sri Kaloka Prabotosari
Prime Secretary
LAPAN
Jakarta, Indonesia

Nov 02, 2012
Date

Jakarta, Indonesia
Place

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ANNEX I

TO THE

IMPLEMENTING ARRANGEMENT

BETWEEN THE

UNITED STATES GEOLOGICAL SURVEY
OF THE DEPARTMENT OF THE INTERIOR

AND THE

NATIONAL INSTITUTE OF AERONAUTICS AND SPACE (LAPAN)
OF THE REPUBLIC OF INDONESIA

FOR COOPERATION IN THE USE OF
U.S. LAND REMOTE SENSING SATELLITE DATA

DEFINITION OF TERMS

Acquisition Radius:

An International Cooperator's (IC's) acquisition radius is that portion of the Earth over which the satellite can communicate with an IC's ground station.

Browse:

Browse is a full resolution or sub-sampled Level 0R or Level 1 digital image of the Earth that can be viewed on a scene basis to quickly assess general ground area coverage, data quality, and the spatial relationships between ground area coverage and cloud coverage. A browse is an image with a reduced data volume to facilitate screening of archived Land Remote Sensing Satellite Data. Specifications regarding browse images are documented in the appropriate mission Data Format Control Book (DFCB) and made available by the USGS.

Data Format:

The Landsat Technical Working Group (LTWG) recommends the archive data format for exchanging data between an International Cooperator and USGS archives. The archive data exchange format for purposes of quality assessment and key government programs is typically the lowest level of processed data available (i.e. Mission or Raw Computer Compatible [RCC] Data) and is transferred electronically or on media. The archive data exchange format is documented in the appropriate mission Data Validation and Exchange Plan and associated Data Format Control Book (DFCB) and made available by the USGS.

Data Products Distribution Format:

The USGS Land Remote Sensing Satellite Data products are Level-0Rp (Level Zero Reformatted Product) in HDF format and Level-1T (terrain corrected) in Geo-TIFF format. International Cooperators may produce data products of their choice. ICs are encouraged, but not required to produce Level 0Rp data products in HDF format, but are required to distribute Level-1T data products in Geo-TIFF format. Specifications regarding Level-0Rp and Level-1T data products are documented in the appropriate mission Data Format Control Book (DFCB) and made available by the USGS.

International Cooperator (IC):

An International Cooperator (IC) is any non-U.S. Government agency or commercial organization acting on behalf of or in cooperation with a foreign government or international organization, which enters into an agreement with the USGS for purposes of receiving or exchanging Land Remote Sensing Satellite Data.

Key U.S. Government Programs:

Key U.S. Government Programs are any U.S. Government agencies and U.S. Government contractors, other U.S. and foreign researchers and entities involved in the United States

Global Change Research Program, and U.S. and foreign researchers and foreign and international entities having signed a cooperative agreement with the United States Government involving the use of USGS Land Remote Sensing Satellite Data for non-commercial purposes.

The United States Global Change Research Program is the Executive Branch program responding to Public Law 101-606, the Global Change Research Act of 1990, and most recently described in the annual report accompanying the President's budget entitled "Our Changing Planet: The U.S. Climate Change Science Program for Fiscal Year 2012."

International counterpart programs of the U.S. Global Change Research Program are discussed in Section V of "Our Changing Planet." These include the Intergovernmental Panel on Climate Change, the World Climate Research Program, the International Council on Science, and the Group on Earth Observations.

Mission Operations Center (MOC):

The Mission Operations Center (MOC) consists of the people, procedures, and hardware/software systems used for the successful execution of real-time spacecraft operations and off-line scheduling and analysis activities. All command and control functions of the spacecraft performed by the Flight Operations Team (FOT) will take place from the MOC.

Metadata:

Metadata is descriptive information pertaining to the USGS Land Remote Sensing Satellite Data, including such information as location and acquisition date, compiled for Level 0R and Level-1 data, and made available through the USGS user interface. Specifications regarding the metadata are documented in the Landsat Metadata Description Document (LMDD) and made available by the USGS.

Raw Data:

Raw Data is the USGS Land Remote Sensing Satellite Data in the form of wideband telemetry transmitted by the satellite.

U.S. Government and Affiliated Users:

U.S. Government and Affiliated Users are any Federal, State or local government agency personnel and personnel from any organization performing cooperative work with or for these government agencies.

USGS Land Remote Sensing Satellites:

USGS Land Remote Sensing Satellites are any satellites owned and operated by the USGS for the purposes of this agreement. These satellites may include, but are not limited to, the Landsat missions.

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ANNEX II

TO THE

IMPLEMENTING ARRANGEMENT

BETWEEN THE

UNITED STATES GEOLOGICAL SURVEY
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NATIONAL INSTITUTE OF AERONAUTICS AND SPACE (LAPAN)
OF THE REPUBLIC OF INDONESIA

FOR COOPERATION IN THE USE OF
U.S. LAND REMOTE SENSING SATELLITE DATA

LANDSAT 8
ANNUAL ACCESS FEE AGREEMENT

ARTICLE 1 – INTRODUCTION

Pursuant to Article 6 of the Implementing Arrangement (IA) between the United States Geological Survey of the Department of the Interior and National Institute of Aeronautics and Space (LAPAN) of the Republic of Indonesia for the Direct Reception, Distribution, and Exchange of Land Remote Sensing Satellite Data; U.S. Presidential Decision Directive/National Science and Technology Council-3, as amended on October 16, 2000; and the Land Remote Sensing Policy Act of 1992, the USGS has established a fee structure to enable it to administer all operations in support of a global network of cooperating ground receiving stations for direct reception of data from the Landsat 8 mission. This Annex sets forth the related financial and administrative terms and conditions for Landsat 8 cooperation between the USGS and LAPAN.

ARTICLE 2 –FEE STRUCTURE

The fee structure comprises a one-time initialization fee and an annual access fee. If LAPAN moves a receiving antenna to a new location greater than 50 kilometers from its original location, an antenna move fee will be assessed. The annual access fee will be payable for the United States Government (USG) Fiscal Year, which begins on October 1 and ends on September 30, and may be prorated to the remaining portion of the USG Fiscal Year, from the start date for direct transmission of Landsat 8 data to September 30.

The initialization fee for a new IC or a new IC station is U.S. $35,000 for each receiving site. The total initialization fee for LAPAN will be U.S. $35,000 for the new receiving site at Rumpin and U.S. $0 for the existing receiving site(s) located at Parepare.

The antenna move fee is U.S. $15,000 and will be billed each time a station is moved a distance greater than 50 kilometers.

The annual access fee is U.S. $100,000 for a single station operation. Each additional ground station has an annual access fee of U.S. $50,000. The total annual access fee for LAPAN will be U.S. $150,000 for the receiving site(s) located at Rumpin and Parepare.

USG Fiscal Year 2013 is the base year for each of these fees.

ARTICLE 3 – PAYMENT SCHEDULE

The one-time initialization fee and antenna move fee, if applicable, are due and payable 30 days prior to LAPAN reception of Landsat 8 data.

The annual access fee will be payable annually by LAPAN. LAPAN will receive an annual bill 30 days prior to the start of the USG Fiscal Year (billing date of September 1).

Annual payments by LAPAN will be due at the start of the USG Fiscal Year (October 1).

The USGS reserves the right to terminate transmission of Landsat 8 data to LAPAN at any time that LAPAN is in arrears in its payments to the USGS or is delinquent in regularly scheduled delivery of raw telemetry data to the USGS in accordance with IA Article 2.A.3. The USGS will notify LAPAN 30 days in advance of its intention to terminate transmission for these reasons. Payments may be by check or wire transfer in U.S. dollars. Payments by check shall be in U.S. dollars and shall be payable to:

Department of the Interior/USGS

Payments by check shall be mailed to

USGS Office of Financial Management
271 National Center
12201 Sunrise Valley Drive
Reston, Virginia, 20192 USA

Payments by wire transfer shall be in U.S. dollars and transferred to the USGS's bank account. The USGS will provide exact wire transfer information with each billing.

All payments must be received within 30 days from the date of invoice. Charges for late payment will be at the U. S. Treasury Department prevailing rate on the overdue balance for each 30-day period or portion thereof that payment is delayed.

ARTICLE 4 – FEE CHANGES

While USGS reserves the right to make modifications to the annual access fee used in this fee structure, it is the USGS's intent to minimize the changes to the fee structure during the life of the Landsat 8 mission. For the Landsat 8 mission, a 3% annual increase is planned to account for average annual rates of inflation. Reasonable notification of any proposed change to these fees (initialization, antenna move, and annual access fees), taking into account the budget cycles of the parties, shall be provided in writing by the USGS to LAPAN 60 days prior to the implementation of the proposed change. Any proposed fee change would not exceed 10% of the current annual access fee.

For budget planning purposes the anticipated annual access fee structure is as follows:

	Year 1	Year 2 (+3%)	Year 3 (+3%)	Year 4 (+3%)
One Site	U.S. $100,000	U.S. $103,000	U.S. $106,090	U.S. $109,273
Two Sites	U.S. $150,000	U.S. $154,500	U.S. $159,135	U.S. $163,909

ARTICLE 5 – CONTINGENCIES

The USGS, in consultation with LAPAN, may curtail or terminate the transmission of data and adjust the annual access fees if the USGS is unable to satisfy data requests due to spacecraft system capability limitations or ground receiving stations conflicts.

ARTICLE 6 – DURATION AND AMENDMENT

This Annex will remain in effect as long as the IA remains in force, and it may be amended by mutual consent of USGS and LAPAN through an Exchange of Letters.

At the beginning of each new USG Fiscal Year, the USGS and LAPAN will review this Annex and revise it if necessary.

ARTICLE 7 – AUTHORIZING SIGNATURES

The signatures of the authorized officials below signify the agreement by the Parties to the terms of this annex.

For the United States Geological Survey
of the Department of the Interior:

Marcia McNutt
Director
U.S. Geological Survey
Reston, Virginia

OCT 10 2012
Date

For LAPAN:

Taufik Maulana
Deputy Chairman for Remote Sensing Affairs
LAPAN
Jakarta, Indonesia

NOV 02, 2012
Date